Lesson 2: Program Requirements – Food Based Menus

Lesson 2 Program Requirements – Food Based Menus

Slide 1

Lunch photo – Sandwich

Slide 2

Lunch photo – Chicken

Slide 3

Lunch photo – Lasagna

Slide 4

Overview

Food Based Menus are one of three menu planning options in the USDA ***School Meals Initiative for Healthy Children***. The other two are NuMenus and Assisted NuMenus, which are based on the nutrient content of the meal.

All of the menu planning systems use foods to develop menus for school food service. With Food Based Menus, foods from specific food groups and in specific quantities must be offered. With NuMenus and Assisted NuMenus, only fluid milk is required and any other foods in any quantities may be offered.

Meet Nutrition Goals

The objective of all three menu planning systems is to meet the nutrition goals:

Notes

1 Interest Building Strategy/Set

Show menus that do or do not meet the new program requirements. Ask if students can determine which do and do not. They will be able to by the end of the lesson. Do not go into detail at this point.

2 Review Competencies

3 Purpose

Our goal is to plan menus that meet the nutritional requirements of children. Food Based Menus is one menu planning option for doing that. We can use the familiarity of the traditional meal pattern to ease our transition into implementing healthy school meals.

4 Transfer

The program requirements for Food Based Menus are very similar to the traditional meal pattern. We will assume you are very familiar with the traditional meal pattern and concentrate our efforts on learning the program requirements that have changed.

5 Instruction

See Appendix D: Recommended Dietary Allowances

USDA School Meals Initiative for Healthy Children

Nutrition Goals

- Recommended Dietary Allowances
  - 1/4 RDA for Breakfast
  - 1/3 RDA for Lunch
- Calorie Goals
  - Age appropriate
- Dietary Guidelines for Americans
  - Balanced nutrient content

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A school food authority may select any of the three new menu planning systems as their method to provide healthy school meals.

With Food Based Menus the school is not required to conduct a nutrient analysis of the menus. The state agency will do so as part of the administrative review, unless they have developed an alternate, USDA-approved review method which provides assurance that the school meals are in compliance with all of the nutrition goals.

Few Changes For Major Impact

The traditional meal pattern has been successful in providing adequate calories and most nutrients. It did not, however, have quantitative limits for fat and saturated fat, or encourage an increase in complex carbohydrates and dietary fiber.

The goal in revising the traditional pattern into a plan for good health was to retain the component structure and as many other features (such as the serving sizes and the types of foods in the components) of the traditional meal pattern as possible to facilitate implementation at the local level.

Maintain Calories

In Food Based Menus, it is necessary to increase the calories from lowfat foods to replace the calories lost from reductions in total fat. Meals low in fat may be too low in calories if the calories are not increased from other foods such as whole grains, breads, cereals, vegetables and fruits.

Notes

Food Based Menus

Food Based Menus
Key Points
- Enhancement to traditional meal pattern
- Nutrient Standards
- Two required grade groups
- Food components and items
- Changes for lunch
- No changes for breakfast

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Enhancement of Traditional Pattern

Food Based Menus are an enhancement of the traditional meal pattern. The principal differences between Food Based Menus and the traditional meal pattern are:

- Two required groups for grades K-6 and 7-12
- Increased quantities of vegetables/fruits and grains/breads for lunch
- Grain desserts may count toward lunch grains/breads

There is no change in the following:

- Types of food components and items offered
- Minimum quantity requirements
- Serving size criteria
  - What constitutes a 1/4-cup serving of canned peaches?
  - How much cereal qualifies as one bread equivalent?

Nutrient Standards

Definition

A Nutrient Standard is the required level of calories and nutrients for a specific age group.

What is a Nutrient Standard?

The required level of calories and nutrients for a specific grade or age group is a Nutrient Standard.

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The Nutrient Standards which are set for the three menu planning systems – NuMenus, Assisted NuMenus, and the Food Based Menus – are based on the required level of calories, nutrients and dietary components for a specific age or grade group. Planned and offered breakfast and/or lunch menus averaged over a week should meet the Nutrient Standard of the age or grade group for which they are

Notes

Point out the key points of Food Based Menus.

intended. Meeting these standards is the goal for all three menu planning systems.

Calories and Nutrients in the Nutrient Standards

Standards are set for:

Calories and Nutrients in Nutrient Standards

- Calories
- ≤ 30% calories from fat
- < 10% calories from saturated fat
- Protein
- Calcium
- Iron
- Vitamin A
- Vitamin C

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Foods containing these nutrients typically contain the other essential nutrients not specified in the Nutrient Standards.

Other Nutrients and Dietary Components Analyzed

Cholesterol	Dietary fiber
Sodium	Carbohydrate

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Other nutrients and dietary components that will be analyzed are carbohydrate, cholesterol, sodium and dietary fiber. While there are no quantity standards set for these dietary components, they must be included in the analysis except carbohydrate, which is optional. They will be monitored over time to check on the implementation of the Dietary Guidelines:

1. Is the carbohydrate level going up?
2. Are cholesterol and sodium levels going down?
3. Is the dietary fiber level going up?

Establishment of the Nutrient Standards

The Nutrient Standards for healthy school meals were established for all three of the menu planning systems by weighting and averaging the RDA for different groups of children. The standards are set using the RDA because they are considered to be the best estimate of how much of a nutrient intake is required to adequately meet the known

Notes

Activity – Nutrients
Review with a partner, then try to list the nutrients and dietary components.
1. In the Nutrient Standards and
2. In the others to be analyzed. Use the Activity sheet in Appendix C.

nutrient needs of practically all healthy people because they are:

Recommended Dietary Allowances

- Set by a committee selected by the National Academy of Science and approved by National Research Council
- Based on available scientific evidence and revised periodically
- Reexamined by a new committee for each revision
- Set as recommendations with a margin of safety, not requirements
- Set for a healthy person not under stress of illness

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The RDA are designed for many uses, including use as guidelines for menu planners to aid in evaluating and planning diets for groups of people such as children. While the RDA can be met by eating a variety of foods with careful planning, this is difficult to achieve on a daily basis. The time frame varies for each nutrient. However, for most nutrients, the RDA encompasses average intakes over at least three days.

Age and Grade Groups

The Nutrient Standards for lunch and breakfast are set, at a minimum, for these grade levels:

Lunch required grade groups

- Preschool
- Grades K-6
- Grades 7-12
- Plus an optional standard for grades K-3

Breakfast required grade groups

- Preschool
- Grades K-12
- Plus an optional standard for grades 7-12

Required Grade Nutrient Standards – Breakfast

Calories and Nutrient Levels for School Breakfast (school week averages)			
	Pre-school	Grades K-12	Option Grades 7-12
Energy Allowances (calories)	388	554	618
Total fat (g) [3]	13[1]	18[1]	21[1]
Total saturated fat (g) [3]	4[2]	6[2]	7[2]

Notes

Point out that there is no RDA for fat or saturated fat, but it is helpful to monitor the grams of fat and saturated fat.

The actual grams will vary depending on the actual calorie level because they are based on percentages.

Show T-1, Total Fat Goal for Grades K-6, Lunch and T-2, Saturated Fat Goal for Grades K-6, Lunch.

Close by showing T-3, Fat Goals.

Calories and Nutrient Levels for School Breakfast (school week averages)			
Protein (g)	5	10	12
Calcium (mg)	200	257	300
Iron (mg)	2.5	3.0	3.4
Vitamin A (RE)	113	197	225
Vitamin C (mg)	11	13	14

[1] Total fat not to exceed 30 percent over a school week
[2] Saturated fat to be less than 10 percent over a school week
[3] The grams of fat will vary depending on actual level of calories

Notes

Required Grade Nutrient Standards – Lunch

Calorie and Nutrient Levels for School Lunch (school week averages)				
	Pre-School	Grades K-6	Grades 7-12	Grades K-3 Option
Energy Allowances (calories)	517	664	825	633
Total fat (g) [3]	17[1]	22[1]	28[1]	21[1]
Total saturated fat (g) [3]	6[2]	7[2]	9[2]	7[2]
Protein (g)	7	10	16	9
Calcium (mg)	267	286	400	2 67
Iron (mg)	3.3	3.5	4.5	3.3
Vitamin A (RE)	150	224	300	200
Vitamin C (mg)	14	15	18	15

[1] Total fat not to exceed 30 percent over a school week
[2] Saturated fat to be less than 10 percent over a school week
[3] The grams of fat will vary depending on actual level of calories

The calorie and nutrient needs of children vary by their sex, age, size, and activity level. The calorie standards for breakfast and lunch are estimates of the minimum energy needed. But some children, especially older males, may require considerably more than the minimum. Children who are large for their age or more active also need more calories. Menu planners should adjust the amounts of foods served to provide for the calorie needs of all children.

Required Grade Groups

The grade groups for the meal plans for Food Based Menus are:

Lunch meal plans

- Ages 1-2
- Preschool
- Grades K-6
- Grades 7-12
- Plus optional group for grades K-3

Notes

See Appendix H for a larger chart of the Nutrient Standards.

Notes

Breakfast meal plans

- Ages 1-2
- Preschool
- Grades K-12
- Plus optional group for grades 7-12

These groups are designed to reflect the differing nutrient and caloric needs of younger and older children while also accommodating the grade structure of the majority of schools. Not all schools will fall into these age/grade groups.

Food Components and Items

A ***food component*** means one of the four food groups which compose the reimbursable school lunch, i.e., meat or meat alternate, milk, grains/breads and vegetables/fruits or one of the four food groups which compose the reimbursable school breakfast, i.e., meat or meat alternate, milk, grains/breads, or juice/fruit/vegetable.

Lunch Food Components

- Meat/Meat Alternate
- Vegetables/Fruits
- Grains/Breads
- Milk

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Breakfast Food Components

- Meat/Meat Alternate
- Juice/Fruit/Vegetable
- Grains/Breads
- Milk

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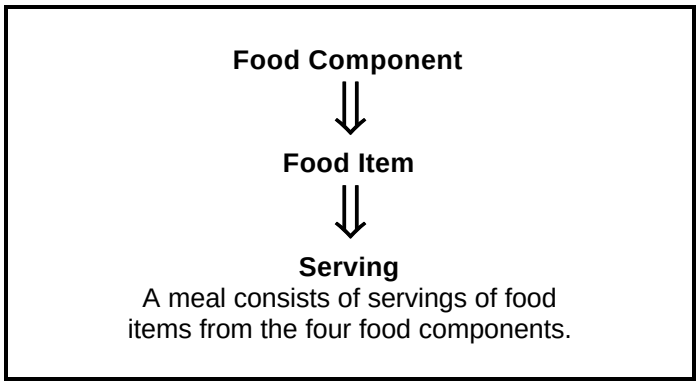
See Appendices A and B for the new Food Based Menus meal plans.

A ***food item*** means:

- One of the five required foods for lunch
  - Meat or Meat Alternate
  - Milk
  - Grains/Breads
  - Two Vegetables and/or Fruits

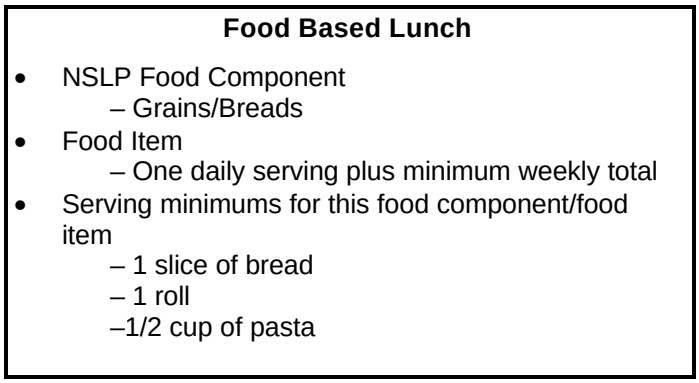
- One of the four required foods for breakfast
  - Two Grains/Breads and/or Meat or Meat Alternate
  - Milk
  - Juice/Fruit/Vegetable

The number of food items is specified by day **and by week** in the new menu plan for lunch. The number of food items for breakfast remains a daily criteria. For each food item, a minimum number and size of servings per day and/or week is specified.



Slide 13

An example with grains/breads is shown below:



Slide 14

The food components and food items are designed to provide the minimum RDA levels for calories and specified key nutrients and to meet the recommended Dietary Guidelines level of total fat and saturated fat over a school week.

Changes for Lunches

Meat/Meat Alternate

There are no changes in the required quantities for meat/meat alternate. The quantities for grades K-6 were not

Notes

reduced because this food component is a major source of iron as well as other trace minerals.

However, if the school has been using the grades K-3 pattern and now chooses to include those grades in the grades K-6 group rather than the K-3 option, there will be an increase from 1 1/2 ounces to 2 ounces.

Vegetables/Fruits

Principal Differences
Vegetables/Fruits

Lunch Quantities for Grades K-6
3/4 cup Vegetables/Fruits per day
plus 1/2 cup per week

Lunch Quantities for Grades 7-12
1 cup Vegetables/Fruits per day

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To meet the minimum lunch quantities required for the food item for the fruits/vegetables component for grades K-6, the minimum daily quantity is 3/4 cup with an additional 1/2 cup served **over a week**. For grades 7-12, the minimum daily quantity is one cup.

Purpose

- Replace calories from fat
- Increase complex carbohydrate
- Increase dietary fiber
- Increase nutrients

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Notes

The increase for grades K-6 can be accomplished in several ways:

How?

Grades K-6

- Increase several items
- Add two servings of 1/4 cup per week OR
- Add one serving of 1/2 cup per week

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For grades 7-12, the increase can be accomplished by:

How?

Grades 7-12

- Increase several items
- Add one serving of 1/4 cup per day

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The choice of how to add the additional quantity for any group is left to the school. The decision should be based on what your students will eat and your food service operation.

For example, a school with prepackaged vegetables/fruits may opt to increase several serving sizes during the week to avoid the extra expense of packaging an additional item. A school that purchases most of its food in ready-to-serve units may find it easier to add 1/2 cup serving on only one day for grades K-6.

Plate waste

When making the decision on how to increase the quantity, plate waste must be a factor in that decision. Increasing the quantity of a less popular food would not lead to increased consumption of vegetables/fruits, which is the primary goal.

1/8 cup minimum

Menu planners are reminded that vegetables/fruits servings must contribute at least 1/8 cup to count toward the servings. When adding raisins or other fruits to a bread, for instance, the menu planner must assure that the fruit contributes at least 1/8 cup according to the USDA ***Food Buying Guide***.

Notes

Grains/Breads

Notes

Principal Differences
Grains/Breads

Lunch Quantities for Grades K-6

12 Servings per week

Lunch Quantities for Grades 7-12

15 Servings per week

Allows one Grains/Breads serving

of grain-based dessert

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Purpose

- Replace calories from fat
- Increase complex carbohydrate
- Increase nutrients
- Increase dietary fiber

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The biggest difference in Food Based Menus over the traditional meal pattern is the increase in servings of grains/breads to 12 for grades K-6 and 15 for grades 7-12 over a week. This change is critical to the success of Food Based Menus in meeting the nutrition goals, particularly the calorie requirements and meeting the Dietary Guideline recommendations on fat and saturated fat.

Servings per day

The change in the number of servings is for a week. There is still only the requirement of **one serving of grains/bread per day**. This is not a good menu planning practice, however, because that meal will appear skimpy and the menu planner will be forced to concentrate the servings of grains/breads into fewer days.

For the purposes of the grains/breads food component/food item, a serving is defined as:

- A slice of bread or an equivalent serving of rolls, biscuits, etc.
- 1/2 cup of cooked rice, macaroni, noodles, etc.
- 1/2 cup of cereal grains

How?

- Increase the serving size of several items
- Add servings of grains/breads
- Consider one serving of a grain-based dessert per day for lunch

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Grain-based dessert option

Again, when increasing the number of servings available, it is the option of the school on how to achieve the increase.

For the purposes of the lunch grains/breads food component/food item, one dessert daily may be credited as a grains/breads serving for the grade groups K-6 and 7-12 and for the optional grade group K-3. The minimum quantities for dessert items will be established in guidance provided by FCS.

Plate waste

Plate waste with this food component is also a factor to be considered when deciding how to increase the number of servings. Which is more likely to be consumed: an additional bread serving in the pizza crust or an extra 1/2 cup of noodles? The answer will depend on the preferences of your students.

Milk

The portion size for milk remains the same as for the traditional meal pattern. Section 107 of Public Law 103-448 did modify the statutory requirement to offer fluid whole milk and fluid unflavored lowfat milk for lunch. Schools are now required to offer a variety of fluid milk consistent with children's preferences in the prior year. If a specific type of milk represents less than one percent of the total amount of milk consumed in the previous year, the school may elect not to offer that type of milk for lunch.

No Changes for Breakfast

An optional group for grades 7-12 with one additional serving of grains/breads per day has been added for Food Based Menus. The purpose of the change is to provide additional calories for adolescents, particularly males.

Offer versus Serve

Offer versus Serve for Food Based Menus is the same as under the traditional meal pattern.

Notes

Offer versus Serve

General Rules

- Allows students to decline a certain number of food items in the meal.
- Reduces food waste and food costs.
- Must be implemented in senior high schools for lunch.
- Junior high, middle schools and elementary schools have the option for lunch.

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Under Offer versus Serve, students are allowed to take smaller portions of the **declined** food items. The required food items taken by the student, however, must be a full serving.

The decision to decline the allowed number of food items or to accept smaller portions of otherwise declined food items does not affect the charge for the meal.

Within the minimum quantities specified in the regulations for the various age and grade groups, the menu planner establishes what constitutes a "serving."

Goals

Goals of Offer versus Serve

- Minimize plate waste
- Encourage more food choices

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Offer versus Serve for Food Based Menus

National School Lunch Program

Offer versus Serve

Traditional and Food Based Menus

- All five food items must be offered to all students.
- The serving sizes must equal the minimum required quantities by age or grade group.
- The lunch must be priced as a unit.
- Students have the option of which item(s) to decline.

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Students must be offered all five required food items:

- One serving each of:
  - Meat/Meat Alternate

Notes

Notes

  - Milk
  - Grains/Breads
- Two servings of:
  - Vegetables/Fruits

Senior high students are allowed to decline two of the five required food items.

Offer versus Serve is optional below the senior high level. Students below the senior high level may be permitted to decline one or two of the five required food items.

School Breakfast Program
Offer versus Serve
Traditional and Food Based Menus

- All four food items must be offered to students.
- The serving sizes must equal the minimum quantities required by age or grade group.
- The breakfast must be priced as a unit.
- Students have the option of which item to decline.

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Students must be offered all four required food items:

- One serving each of:
  - Milk
  - Juice/Fruit/Vegetable
- One of each or two of:
  - Grains/Breads
  - Meat/Meat Alternate

At the option of school food authority, each school may allow the students to refuse one **food item** from any component.

Grains/Breads

For the purposes of Offer versus Serve and taking into consideration the multiple servings required for the grains/breads food component/food item, the daily **component** requirement will be considered met if the student selects **at least** one of the one or more daily servings offered.

For example, in a school with grades 7-12, the following foods are offered as the grains/breads food component/food item to meet the 15 servings per week/one per day requirement:

Day 1

- 1 slice of garlic bread (counts as 1 serving)
- 1 cup of spaghetti (2 servings)
- The required minimum for dessert item (1 serving)

Total servings: 4

Day 2

- 1/2 cup of rice (1 serving)
- The required minimum for dessert item (1 serving)

Total servings: 2

Day 3

- 1 cup of noodles (2 servings)
- 1 roll (1 serving)
- The required minimum for a dessert item (1 serving)

Total servings: 4

Day 4

- 1 cup of noodles (2 servings)
- 1 roll (1 serving)
- The required minimum for a dessert item (1 serving)

Total servings: 4

Day 5

- 2 rolls offered as a single serving (counts as 1 serving as the menu planner established this as the serving size)

Total servings: 1

Total servings for the week: 15

In this example, the school is complying with all requirements as it offered at least one serving of this food item daily and also offered the required **weekly** total.

Other Regulations for Food Based Menus

Alternate Foods for Meals

The current regulations for Enriched Macaroni Products with Fortified Protein, Cheese Alternate Products, Vegetable Protein Products and Formulated Grain-Fruit Products still apply.

Foods of Minimal Nutritional Value

The current regulations still apply in this area also. See Appendix E.

Child Nutrition Labeling Program

The current regulations also still apply. See Appendix F.

Notes

Summary

Principal Differences

Two required Grade Groups
Lunch Quantities for Grades 7-12
- 1 cup vegetables/fruits per day
- 15 servings of grains/breads per week

Lunch Quantities for Grades K-6
- 3/4 cup vegetables/fruits per day, plus 1/2 cup per week
- 12 servings of grains/breads per week

Lunch Quantities for Option K-3
- 3/4 cup vegetables/fruits per day
- 10 servings of grains/breads per week

Allows one grains serving per lunch of grain-based dessert

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Food Based Menus provide a menu plan that is very similar to the traditional meal pattern. Therefore, it requires less retraining to implement. It requires specific foods in specific amounts for the required grade groupings. The component structure makes it easy to use for nutrition education lessons. The standard quantities simplify the provision of food products by vendors.

Because it will not be analyzed regularly, it is the strict adherence to the new meal plans with their increased servings of vegetables, fruits and grains that will allow this menu planning system to meet the nutrition goals. The school food authority does not have to have their own computer hardware and software because the state agency will monitor the nutrient content during their review to check compliance with the nutrition goals. When conducting a nutrient analysis, the same Nutrient Standards will be used as for the required minimum age/grade groups for NuMenus.

Benefits of Food Based Menus

- Enhancement to traditional meal pattern
- Less retraining
- Component structure for nutrition education
- Standard quantities for vendors
- No need for hardware or software

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Notes

6 Guided Practice
Activity: Appendix G: Quizzes

7 Individual Practice
None

8 Closure
Show the menus from the Set again. Can students spot the ones that do not meet the Program Requirements?

Review competencies.

9 Back on the Job...
Program Requirements is an important area to cover in staff training.

Appendix A: Food Based Menus Meal Plans

Lunch

Minimum Quantities for Food Based Menus Lunch					
	Required				Option
	Ages 1-2	Preschool	Grades K-6	Grades 7-12	Grades K-3
Meal Component					
Milk (as a beverage)	6 fl. oz.	6 fl. oz.	8 fl. oz.	8 fl. oz.	8 fl. oz.
Meat or Meat Alternate (quantity of the edible portion as served)					
Lean meat, poultry or fish	1 oz.	1 1/2 oz.	2 oz.	2 oz.	1/1/2 oz.
Cheese	1 oz.	1 1/2 oz.	2 oz.	2 oz.	1/1/2 oz.
Large egg	1/2	3/4	1	1	3/4
Cooked dry beans or peas	1/4 cup	3/8 cup	1/2 cup	1/2 cup	3/8 cup
Peanut butter or other nut or seed butters	2 Tablespoons	3 Tablespoons	4 Tablespoons	4 Tablespoons	3 Tablespoons
The following may be used to meet no more than 50% of the requirement and must be used in combination with any of the above:					
Peanuts, soynuts, tree nuts, or seeds, as listed in program guidance, or an equivalent quantity of any combination of the above meat/meat alternate (1 ounce of nuts/seeds = 1 ounce of cooked lean meat, poultry or fish).	1/2 oz.= 50%	3/4 oz.= 50%	1 oz.= 50%	1 oz.= 50%	3/4 oz.= 50%
Vegetables/Fruits (2 or more servings of vegetables or fruits or both)	1/2 cup	1/2 cup	3/4 cup plus extra 1/2 cup over a week[1]	1 cup	3/4 cup
Grains/Breads Must be enriched or whole grain. A serving is a slice of bread or an equivalent serving of biscuits, rolls, etc., or 1/2 cup of cooked rice, macaroni, noodles, other pasta products or cereal grains.	5 servings per week[1] Minimum of 1/2 per day[2]	8 servings per week[1] Minimum of 1 per day[2]	12 servings per week[1] Minimum of 1 per day[2]	15 servings per week[1] Minimum of 1 per day[2]	10 servings per week[1] Minimum of 1 per day[2]

[1] For the purposes of this chart, a week equals five days.
[2] Up to one grains/breads serving per day may be a dessert.

Appendix B: Food Based Menus Meal Plans

Breakfast

Minimum Quantities for Food Based Menus Breakfast				
	Required			Option
	Ages 1-2	Preschool	Grades K-12	Grades 7-12
Meal Component				
Milk (Fluid) (As a beverage, on cereal or both)	1/2 cup	3/4 cup	8 fl. oz.	8 fl. oz.
Juice/Fruit/Vegetable Fruit and/or vegetable; or full-strength fruit juice or vegetable juice	1/4 cup	1/2 cup	1/2 cup	1/2 cup
Select <u>one</u> serving from each of the following components or <u>two</u> from one component:				
Grains/Breads One of the following or an equivalent combination:				
Whole grain or enriched bread	1/2 slice	1/2 slice	1 slice	1 slice
Whole grain or enriched biscuit/roll, muffin, etc.	1/2 serving	1/2 serving	1 serving	1 serving
Whole grain, enriched or fortified cereal	1/4 cup or 1/3 oz.	1/3 cup or 1/2 oz.	3/4 cup or 1 oz.	3/4 cup or 1 oz. <u>Plus</u> an additional serving of one of the grains/breads above
Meat or Meat Alternates:				
Meat/poultry or fish	1/2 oz.	1/2 oz.	1 oz.	1 oz.
Cheese	1/2 oz.	1/2 oz.	1 oz.	1 oz.
Egg (large)	1/2	1/2	1/2	1/2
Peanut butter or other nut or seed butters	1 Tablespoon	1 Tablespoon	2 Tablespoon	2 Tablespoon
Cooked dry beans and peas	2 Tablespoons	2 Tablespoons	4 Tablespoons	4 Tablespoons
Nut and/or seeds (as listed in program guidance)[1]	1/2 oz.	1/2 oz.	1 oz.	1 oz.

[1] No more than 1 oz. of nuts and/or seeds may be served in any one meal.

Appendix C: Activity

Nutrients

Directions: List the nutrients and dietary components for each of the following:

Nutrients and Dietary Components in Nutrient Standards

1.

2.

3.

4.

5.

6.

7.

8.

Other Nutrients and Dietary Components Analyzed

1.

2.

3.

4.

Appendix D: Recommended Dietary Allowances

The Recommended Dietary Allowances (RDA) are defined as the level of intake of essential nutrients that, on the basis of scientific knowledge, are judged by the Food and Nutrition Board of the National Academy of Science to be adequate to meet the known nutrient needs of practically all healthy persons. Recommended Dietary Allowances are periodically revised as new research provides better data on nutrient needs. The RDA is intended to provide for individual variations among most healthy persons who live in the United States. A person does not necessarily have a nutritional deficiency because his or her diet fails to meet the RDA. The RDA is intended to be used as a guide for planning diets for groups of people. The theory is that if diets meet 100 percent of the RDA, it will be highly unlikely that people will suffer from a nutritional deficiency, unless they are sick or have a condition that increases nutrient needs or interferes with nutrient utilization.

Because of the use of the RDA in national Child Nutrition Programs, it is important to understand their appropriate applications and limitations. Three points are of particular importance and are repeated here:

Part of a Normal Diet

The recommended allowances for nutrients are amounts intended to be consumed as part of a normal diet. If the RDA are met through a variety of foods from diverse food groups rather than by supplementation or fortification, such diets will likely be adequate in all other nutrients.

Needs of a Group

RDA are safe and adequate levels intended to be sufficiently generous to meet needs of a group of people.

Probable Risk

Although RDA are most appropriately applied to groups, a comparison of individual intakes averaged over a sufficient length of time and compared to the RDA allows an estimate to be made about the probable risk of problems for that individual.

Appendix D – (continued)

1989 Recommended Dietary Allowances Revised Table

The Allowances are expressed as average daily intakes over time, and are intended to provide for individual variations among most normal persons under usual environmental stresses in the United States.

Age (years) & gender	Reference Weight		Reference Height			Vitamins										Minerals						
					Protein	Vitamin A	Thiamin	Riboflavin	Niacin	Vitamin B6	Folacin	Vitamin B12	Vitamin C	Vitamin D	Vitamin E	Vitamin K	Calcium	Iodine	Iron	Magnesium	Phosphorus	Selenium	Zinc
	kg	lbs	cm	in	g	RE	mg	mg	NE	mg	µg	µg	mg	µg	αTE	µg	mg	µg	mg	mg	mg	µg	mg
Infants																							
0.0 - 0.5	6	13	60	24	13	375	0.3	0.4	5	0.3	25	0.3	30	7.5	3	5	400	40	6	40	300	10	5
0.5 - 1.0	9	20	71	28	14	375	0.4	0.5	6	0.6	35	0.5	35	10	4	10	600	50	10	60	500	15	5
Children																							
1 - 3	13	29	90	35	16	400	0.7	0.8	9	1.0	50	0.7	40	10	6	15	800	70	10	80	800	20	10
4 - 6	20	44	112	44	24	500	0.9	1.1	12	1.1	75	1.0	45	10	7	20	800	90	10	120	800	20	10
7 - 10	28	62	132	52	28	700	1.0	1.2	13	1.4	100	1.4	45	10	7	30	800	120	10	170	800	30	10
Males																							
11 - 14	45	99	157	62	45	1000	1.3	1.5	17	1.7	150	2.0	50	10	10	45	1200	150	12	270	1200	40	15
15 - 18	66	145	176	69	59	1000	1.5	1.8	20	2.0	200	2.0	60	10	10	65	1200	150	12	400	1200	50	15
19 - 24	72	160	177	70	58	1000	1.5	1.7	19	2.0	200	2.0	60	10	10	70	1200	150	10	350	1200	70	15
25 - 50	79	174	176	70	63	1000	1.5	1.7	19	2.0	200	2.0	60	5	10	80	800	150	10	350	800	70	15
51 +	77	170	173	68	63	1000	1.2	1.4	15	2.0	200	2.0	60	5	10	80	800	150	10	350	800	70	15
Females																							
11 - 14	46	101	157	62	46	800	1.1	1.3	15	1.4	150	2.0	50	10	8	45	1200	150	15	280	1200	45	12
15 - 18	55	120	163	64	44	800	1.1	1.3	15	1.5	180	2.0	60	10	8	55	1200	150	15	300	1200	50	12
19 - 24	58	128	164	65	46	800	1.1	1.3	15	1.6	180	2.0	60	10	8	60	1200	150	15	280	1200	55	12
25 - 50	63	138	163	64	50	800	1.1	1.3	15	1.6	180	2.0	60	5	8	65	800	150	15	280	800	55	12
51+	65	143	160	63	50	800	1.0	1.2	13	1.6	180	2.0	60	5	8	65	800	150	10	280	800	55	12
Pregnant					60	800	1.5	1.6	17	2.2	400	2.2	70	10	10	65	1200	175	30	320	1200	65	15
Lactating																							
1st 6 mo.					65	1300	1.6	1.8	20	2.1	280	2.6	95	10	12	65	1200	200	15	355	1200	75	19
2nd 6 mo.					62	1200	1.6	1.7	20	2.1	260	2.6	90	10	11	65	1200	200	15	340	1200	75	16

Recommended Dietary Allowances. 10th revised edition © 1989, by the National Academy of Sciences, National Academy Press, Washington DC. The RDA are designed for the maintenance of good nutrition of practically all healthy people in the United States. The recommended amounts are related to the reference heights and weights listed here. Weights and heights are the medians for the U.S. Population as reported in NHANES II: The median weights of those under 19 years of age are taken from Hamill et al., 1979.

DEFINITIONS:

mcg or µg = micrograms; 1000 mcg = 1 mg: 1000 mg = 1 gram.
Thiamin = Vit B1; Riboflavin = Vit B2; Niacin = Vit B3. RE (Retinol equivalents) = 1µ Vitamin A from animal sources, or 6 µ of Vitamin A from B-carotene (plant sources). Vitamin D: 10 µg of Vitamin D (as cholacalciferol) = 400 IU (International Units). IUs are an older measure. Vitamin E: 1 mg of d-a tocopherol = 1 aTE (TE = tocopherol equivalent). Niacin (Vitamin B3): NE (niacin equivalent) is 1 mg of niacin or 60 mg of dietary tryptophan. Also referred to as mg-NE.

Appendix D – continued

Recommended Energy Intake

		Weight		Height		REE*	Average Energy Allowance (kcal)**		
Category	**Age**	**kg**	**lb**	**cm**	**in**	**(kcal/day)**	**Multiples of REE**	**Per kg**	**Per day ***
Infants	0.0-0.5	6	13	60	24	320		108	650
	0.5-1.0	9	20	71	28	500		98	850
Children	1-3	13	29	90	35	740		102	1300
	4-6	20	44	112	44	950		90	1800
	7-10	28	62	132	52	1130		70	2000
Males	11-14	45	99	157	62	1440	1.70	55	2500
	15-18	66	145	176	69	1760	1.67	45	3000
Females	11-14	46	101	157	62	1310	1.67	47	2200
	15-18	55	120	163	64	1370	1.60	40	2200

Modified from Recommended Dietary Allowances, ed 10, National Research Council, Washington, DC, 1989, National Academy Press.

* Calculation based on WHO equations, then rounded. 3 REE, Resting energy expenditure.

** In the range of light to moderate activity, the coefficient of variation is± 20%.

*** Figure is rounded.

Appendix E: Foods of Minimal Nutritional Value

Competitive Foods

Competitive foods means any foods sold in competition with the program to children in food service areas during the lunch periods.

Foods of Minimal Nutritional Value

A Food of Minimal Nutritional Value means:

1. In the case of artificially sweetened foods, a food which provides less than five percent of the Reference Daily Intakes (RDI) for each of eight specified nutrients per serving; and
2. In the case of all other foods, a food which provides less than five percent of the RDI for each of eight specified nutrients per 100 calories and less than five percent of the RDI for each of eight specified nutrients per serving.

The eight nutrients to be assessed for this purpose are:

1. Protein
2. Vitamin A
3. Vitamin C
4. Niacin
5. Riboflavin
6. Thiamin
7. Calcium
8. Iron

General Information

State agencies and school food authorities shall establish such rules or regulations as are necessary to control the sale of foods in competition with lunches served under the Program. Such rules or regulations shall prohibit the sale of foods of minimal nutritional value, as listed in Appendix B of this part, in the food service areas during the lunch periods. The sale of other competitive foods may, at the discretion of the state agency and school food authority, be allowed in the food service area during the lunch period only if all income from the sale of such foods is accrued to the benefit of the nonprofit school food service or the school or student organizations approved by the school. State agencies and school food authorities may impose additional restrictions on the sale of and income from all foods sold at any time throughout schools participating in the Program.

Appendix F: USDA Child Nutrition Labeling Program

CN

The USDA Child Nutrition Labeling Program

CN CN

The Child Nutrition (CN) Labeling Program is a voluntary Federal labeling program for the Child Nutrition Programs.

CN

WHO RUNS THE PROGRAMS?

The CN Labeling Program is run by the Food and Consumer Service (FCS) of the U.S. Department of Agriculture (USDA) in cooperation with the following agencies:

- Food Safety and Inspection Service
- Agricultural Marketing Service
- National Marine Fisheries Service

The program is operated by FCS directly with commercial food processing firms.

HOW DOES THE PROGRAM WORK?

The program requires an evaluation of a product's formulation by FCS to determine its contribution toward meal pattern requirements. It allows manufacturers to state this contribution on their labels. The program provides a warranty against audit claims for purchases of CN-labeled products.

WHAT PRODUCTS ARE ELIGIBLE FOR CN LABELS?

- Main dish products which contribute to the meat/meat alternate component of the meal pattern requirements. Examples of these products include beef patties, cheese or meat pizzas, meat or cheese and bean burritos, egg rolls and breaded fish portions.
- Juice and juice drink products which contain at least 50 percent full-strength juice by volume. This includes such products as grape drink, fruit punch, and juice drink bars.

To carry CN labels, eligible products must:

- Be produced under Federal Inspection by USDA or USDC.
- Have the contribution of meat/meat alternate products determined using yields in the USDA Food Buying Guide.

ARE MANUFACTURERS REQUIRED TO CN LABEL PRODUCTS?

There is no Federal requirement that anyone make or purchase CN-labeled products. Purchasing decisions are left to the local level. If a CN-labeled product is desired, this must be clearly stated in purchasing specifications.

WHAT ARE THE ADVANTAGES OF USING CN LABELS?

- A CN label statement clearly identifies the contribution of a product toward the meal pattern requirements. It protects you from exaggerated claims about a product.
- A CN label provides a warranty against audit claims, if used according to the manufacturer's directions.

DO CN-LABELED PRODUCTS COST MORE?

They should not. Cost comparison between two meat products should be based on the cost per ounce or pound that **contributes** to the meal pattern requirements, not on the **product** cost per ounce or pound.

HOW DO I IDENTIFY A CN LABEL?

A CN label will always contain the following:

- The CN logo which is a distinct border.
- The meal pattern contribution statement.
- A six-digit product identification number.
- USDA/FCS authorization.
- The month and year of approval.

For additional information about the CN Labeling Program, contact:

U.S. Department of Agriculture
Nutrition and Technical Services Division
Food and Consumer Service
Room 607
3101 Park Center Drive
Alexandria, VA 22302
(703) 305-2556

SAMPLE LABEL STATEMENT

000000
This 5.00-oz. Pizza with Ground Beef and Vegetable Protein Product provides 2.00 oz. equivalent meat/meat alternate, ½ cup serving of vegetable, and 1½ servings of bread alternate for the Child Nutrition Meal Pattern Requirements. Use of this logo and statement authorized by the Food and Consumer Service, USDA 05-84.

Appendix G: Quizzes

Program Requirements for Food Based Menus

Circle the most appropriate answer:

1. There are benefits to using Food Based Menus in planning. Some of those benefits are:
   a) It is based on the component structure, which helps students relate school breakfast and lunch to the Food Guide Pyramid.
   b) It can achieve cost control through smaller portion sizes.
   c) It provides an easier transition because it is consistent with the traditional meal pattern.
   d) a and c
   e) a, b, and c
2. The major differences for lunch between Food Based Menus and the traditional menu pattern are:
   a) In order to replace calories when reducing fat, the portion sizes for the meal components of grains/breads and vegetables/fruits have increased for lunch.
   b) With the exception of foods of minimal nutritional value, all foods can be credited toward the reimbursable lunch.
   c) One grains/breads serving per lunch may be a dessert.
   d) In order to replace calories when reducing fat, the portion sizes for the meat or meat alternate component have increased for lunch.
   e) a and c
3. The grade groups for minimum quantities for lunches are:
   a) Required for grades K-6 and 7-12.
   b) Optional age group of grades K-2.
   c) Required for grades K-3, 4-6 and 7-12.
   d) a and b
   e) No different than the traditional lunch pattern.
4. The Offer vs. Serve requirement in Food Based Menus:
   a) Is an effort to reduce food waste and food cost in the cafeteria.
   b) Has not changed from the traditional meal pattern.
   c) Must be implemented in senior high schools.
   d) Allows schools to offer a smaller portion if the full portion is declined.
   e) All of the above.
5. Offer vs. Serve requirements for a senior high school lunch using Food Based Menus:
   a) Must offer all five required food items.
   b) Students can decline up to two of the required food items.
   c) The entree must be taken.
   d) There were no changes from the traditional pattern.
   e) a, b, and d

For the questions below, list as many responses as you can.

6. A school serves students grades 6-9. What meal pattern grade group(s) for minimum serving sizes can you use?

7. What meal pattern age/group(s) for minimum serving sizes can you use for a school that serves K-8 at breakfast?

8. What are the changes in lunch quantities in the Food Based Menus from the traditional pattern for grades 7-12?

9. What are the changes in lunch quantities for grades K-6?

10. What are the differences in the breakfast requirements comparing Food Based Menus from the traditional?

Appendix H: Required Grade Nutrient Standards

Required Grade Nutrient Standards - Breakfast

Calories and Nutrient Levels for School Breakfast (school week averages)			
	Preschool	Grades K-12	Option Grades 7-12
Energy Allowances (calories)	388	554	618
Total fat (g) [3]	13 [1]	18 [1]	21 [1]
Total saturated fat (g) [3]	4 [2]	6 [2]	7 [2]
Protein (g)	5	10	12
Calcium (mg)	200	257	300
Iron (mg)	2.5	3.0	3.4
Vitamin A (RE)	113	197	225
Vitamin C (mg)	11	13	14

[1] *Total fat not to exceed 30 percent over a school week*
[2] *Saturated fat to be less than 10 percent over a school week*
[3] *The grams of fat will vary depending on actual level of calories*

Required Grade Nutrient Standards - Lunch

Calories and Nutrient Levels for School Lunch (school week averages)				
	Pre-School	Grades K-6	Grades 7-12	Grades K-3 Option
Energy Allowances (calories)	517	664	825	633
Total fat (g) [3]	17 [1]	22 [1]	28 [1]	21 [1]
Total saturated fat (g) [3]	6 [2]	7 [2]	9 [2]	7 [2]
Protein (g)	7	10	16	9
Calcium (mg)	267	286	400	2 67
Iron (mg)	3.3	3.5	4.5	3.3
Vitamin A (RE)	150	224	300	200
Vitamin C (mg)	14	15	18	15

[1] *Total fat not to exceed 30 percent over a school week*
[2] *Saturated fat to be less than 10 percent over a school week*
[3] *The grams of fat will vary depending on actual level of calories*

Appendix I: Instructor Outline

Lesson 2: Program Requirements – Food Based Menus

Lesson Time

Approximately 1 1/2 hours

Equipment

- ✔ Slide projector
- ✔ 2 screens
- ✔ Overhead projector

Materials

- ✔ Slides
- ✔ Transparencies:
  - T-1 Total Fat Goal for Grades K-6, Lunch
  - T-2 Saturated Fat Goal for Grades K-6, Lunch
  - T-3 Fat Goals for Grades K-6
- ✔ Activity – Appendix C: Nutrients
- ✔ Activity – Appendix G: Quizzes

Lesson Plan Outline

1. Interest Building Strategy/Set
   a) Show slides of menus that do or do not meet the new program requirements. Ask if students can determine which do and do not. They will be able to by the end of the lesson. Do not go into detail at this point.
2. Review Competencies
3. Purpose
   a) Our goal is to plan menus that meet the nutritional requirements of children. Food Based Menus is one menu planning option for doing that.
   b) We can use the familiarity of the traditional meal pattern to ease our transition into implementing healthy school meals.
4. Transfer
   a) The program requirements for Food Based Menus are very similar to the traditional meal pattern. We will assume you are very familiar with the traditional meal pattern and concentrate our efforts on learning the program requirements that have changed.
5. Instruction
   a) Discuss how Food Based Menus are planned with foods from specific food groups in specific quantities, but have the same ultimate goal of meeting the nutrition goals as NuMenus.
   b) Discuss how the goal in revising the traditional meal pattern was to keep it as much the same as possible. There are only a few changes that are intended to have a major impact on the nutritional quality of the meal by increasing grains, vegetables and fruits and making mandatory two grade groupings.
   c) Discuss the changes in the new Food Based Menus plans as opposed to the traditional meal pattern.
   d) Review the Nutrient Standard topics.
   e) Review the requirements for food components and items.
   f) Discuss the changes for lunch by component.
   g) Discuss the change for breakfast which adds an optional grade group for grades 7-12.
   h) Discuss Offer Versus Serve and how the goals and rules remain the same as for the traditional meal patterns.
   i) Discuss the other regulations for Food Based Menus which also remain the same as for the traditional meal patterns: Alternate Foods for Meals, Foods of Minimal Nutritional Value and the Child Nutrition Labeling Program.

6. Guided Practice
   a) Activity – Appendix C: Nutrients
   b) Activity – Appendix G: Quizzes
7. Individual Practice
   a) None
8. Closure
   a) Show the menus from the Interest Building Strategy/Set again. Can students spot the ones that do not meet the Program Requirements?
   b) Review competencies
9. Back on the Job...
   a) Program Requirements is an important area to cover in staff training.
10. Appendices
    a) Appendix A: Food Based Menus Meal Plans – Lunch
    b) Appendix B: Food Based Meal Plans – Breakfast
    c) Appendix C: Nutrients
    d) Appendix D: Recommended Dietary Allowances
    e) Appendix E: Foods of Minimal Nutritional Value
    f) Appendix F: USDA Child Nutrition Labeling Program

g) Appendix G: Quizzes
h) Appendix H: Required Grade Nutrient Standards
i) Appendix I: Instructor Outline
j) Appendix J: Instructor Key

Appendix J: Instructor Key

Program Requirements for Food Based Menus

Circle the most appropriate answer:

1. There are benefits to using Food Based Menus in planning. Some of those benefits are:
   a) It is based on the component structure, which helps students relate school breakfast and lunch to the Food Guide Pyramid.
   b) It can achieve cost control through smaller portion sizes.
   c) It provides an easier transition because it is consistent with the traditional meal pattern.
   d) a and c
   e) a, b, and c
2. The major differences for lunch between Food Based Menus and the traditional menu pattern are:
   a) In order to replace calories when reducing fat, the portion sizes for the meal components of grains/breads and vegetables/fruits have increased for lunch.
   b) With the exception of foods of minimal nutritional value, all foods can be credited toward the reimbursable lunch.
   c) One grains/breads serving per lunch may be a dessert.
   d) In order to replace calories when reducing fat, the portion sizes for the meat or meat alternate component have increased for lunch.
   e) a and c
3. The age/grade groups for minimum quantities for lunches are:
   a) Required for grades K-6 and 7-12.
   b) Optional age group of grades K-2.
   c) Required for grades K-3, 4-6 and 7-12.
   d) a and b
   e) No different than the traditional lunch pattern.
4. The Offer vs. Serve requirement in Food Based Menus:
   a) Is an effort to reduce food waste and food cost in the cafeteria.
   b) Has not changed from the traditional meal pattern.
   c) Must be implemented in senior high schools.
   d) Allows schools to offer a smaller portion if the full portion is declined.
   e) All of the above.
5. Offer vs. Serve requirements for a senior high school lunch using Food Based Menus:
   a) Must offer all five required food items.
   b) Students can decline up to two of the required food items.
   c) The entree must be taken.
   d) There were no changes from the traditional pattern.
   e) a, b, and d

For the questions below, list as many responses as you can.

6. A school serves students grades 6-9. What meal pattern grade group(s) for lunch minimum serving sizes can you use?
   Must use K-6 and 7-12
7. What meal pattern age/group(s) for minimum serving sizes can you use for a school that serves K-8 at breakfast?
   a) K-12 or K-6 plus 7-12
8. What are the changes in lunch quantities in the Food Based Menus from the traditional pattern for grades 7-12?
   a) Vegetables/fruits from 3/4 cup to 1 cup per day.
   b) servings bread/bread alternate per week to 15 grains/breads per week.
9. What are the changes in lunch quantities for grades K-6?
   a) Vegetables/fruits increase by 1/2 cup over a week.
   b) servings bread/bread alternate per week to 12 grains/breads per week.

10. What are the differences in the breakfast requirements comparing Food Based Menus from the traditional?
The only difference is that there is an optional provision for increased serving sizes for grades 7-12.

T-1

Total Fat Goal for Grades K-6

664 calories x 30%
= 199 calories maximum from fat.

199 calories from fat divided by 9
(9 calories per gram of fat)
= 22 grams of fat.

T-2

Saturated Fat Goal for Grades K-6

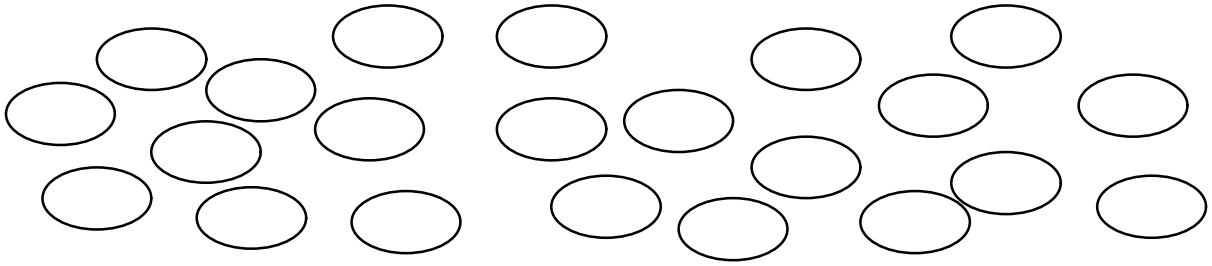
664 calories x 10%
= 66 calories maximum
from saturated fat.

66 calories from saturated
fat divided by 9
(9 calories per gram of fat)
= 7 grams of saturated fat.

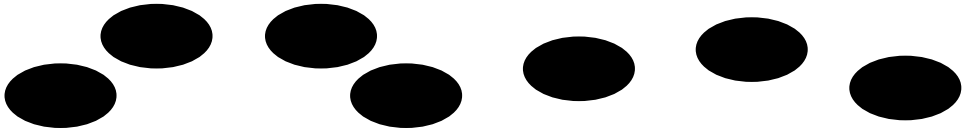
T-3

Fat Goals for Grades K-6

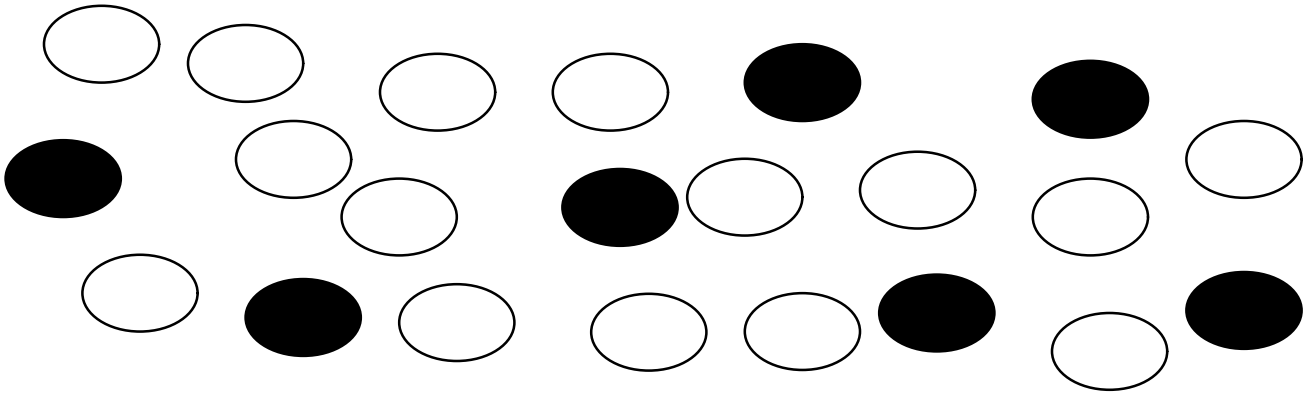
30% of calories from total fat
= 22 grams



10% of calories from saturated fat
= 7 grams



The 7 grams of saturated fat are a part of the 22 grams of total fat



Lesson 2: Program Requirements – Food Based Menus

Competencies

Participants will be able to:

1. List the changed serving sizes by component and grade group.
2. Name one reason for the changed serving sizes.
3. Recognize a reimbursable breakfast and lunch based on the daily and weekly criteria.
4. Recognize a reimbursable breakfast and lunch when Offer versus Serve (OVS) is implemented.